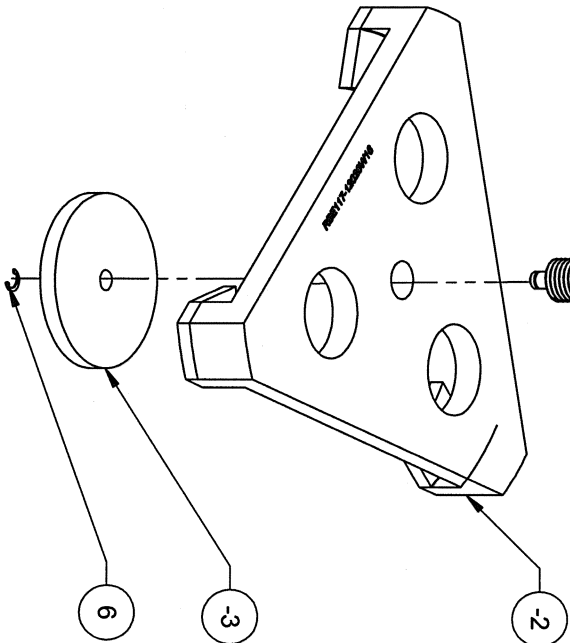
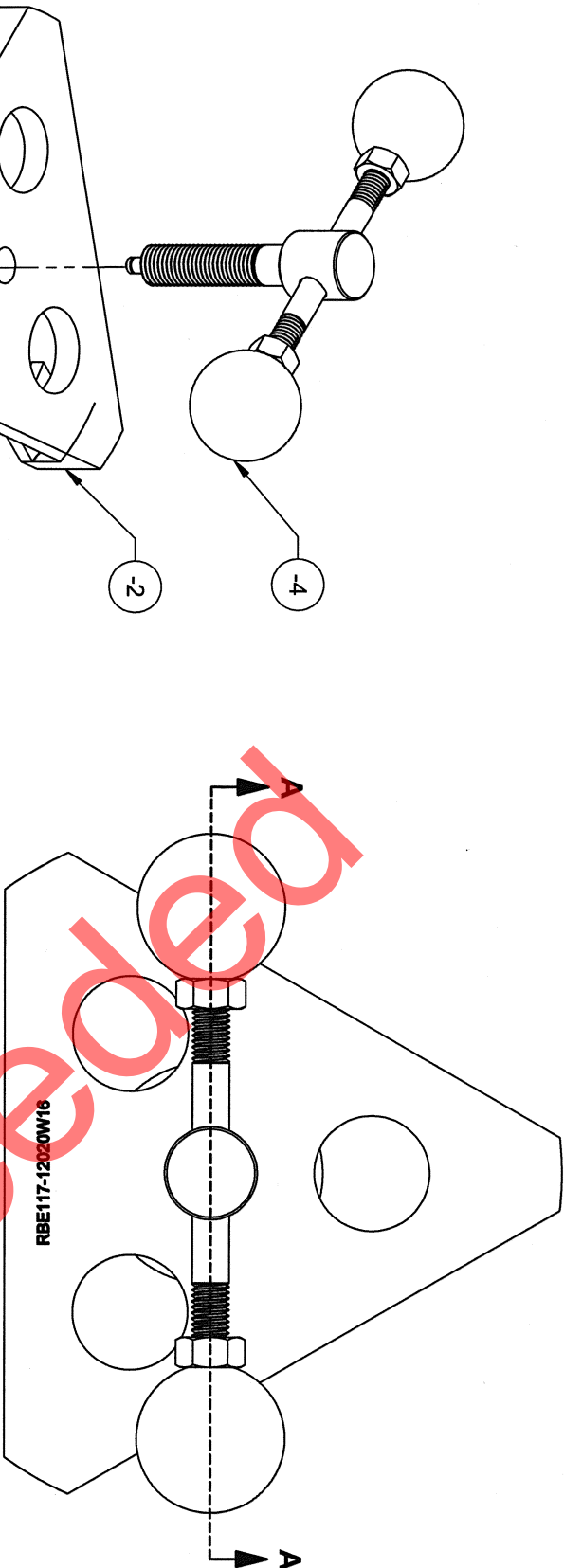
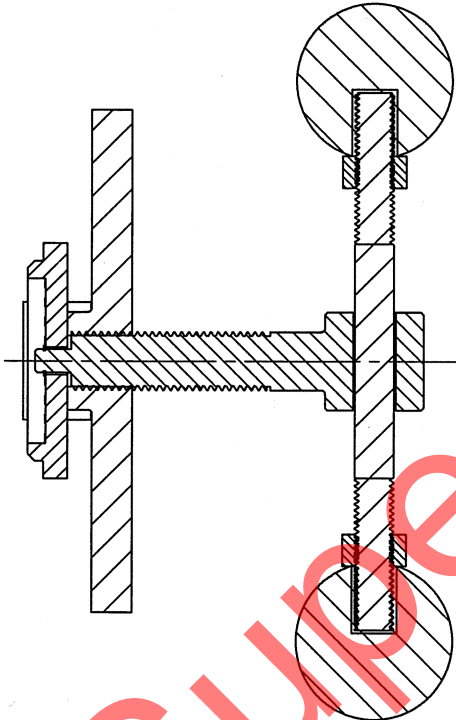


ITEM #	QTY	PART #	PART TITLE
-2	1	RBE117-12020W16-2	FRAME ASSY
-3	1	RBE117-12020W16-3	EXTRACTOR
-4	1	RBE117-12020W16-4	HANDLE ASSY
6	1	McMaster#97414A620 OR EQUIV	BLACK PHOSPHATE SPRING STEEL LOW-CLEARANCE EXTERNAL RETAINING RING FOR 3/16" OD



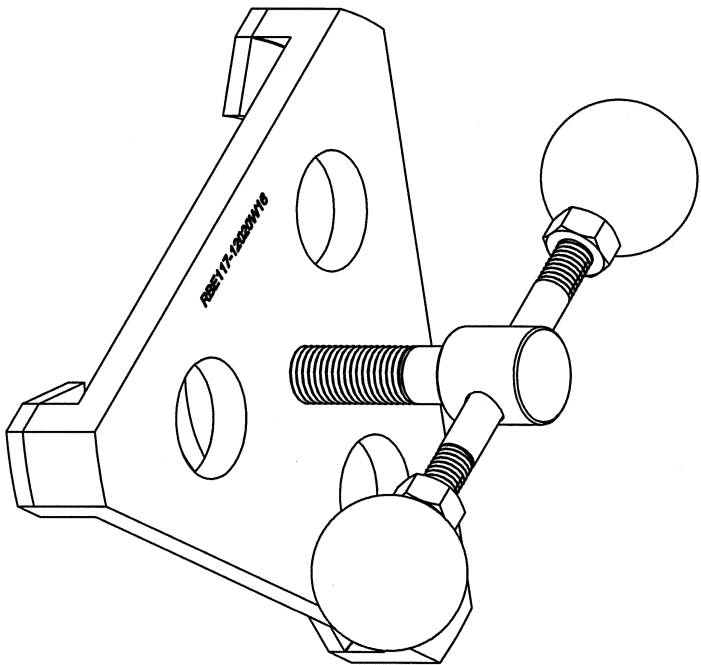
RBE117-12020W16 BASE EXTRACTOR FREE WHEEL



SECTION A-A

- NOTES:
- 1) MATERIAL: N/A
 - 2) HEAT TREAT: N/A
 - 3) FINISH: X.XX = +/-0.01" / +/-0.5°
 - 4) TOLERANCES: X.X = +/-0.1" / +/-1°

- 5) UNITS: INCHES UNLESS OTHERWISE NOTED
- 6) IDENTIFICATION: N/A
- 7) ASSEMBLE AS SHOWN
- 8) THE TOOL ASSY MUST BE PACKAGED WITH A DESICCANT BAG INTO A TIGHT FITTING SEALED PLASTIC BAG



FOR OLDER REV'S SEE PREVIOUS PDF'S
TEMPLATE UPDATED PER DART HBY STANDARDS

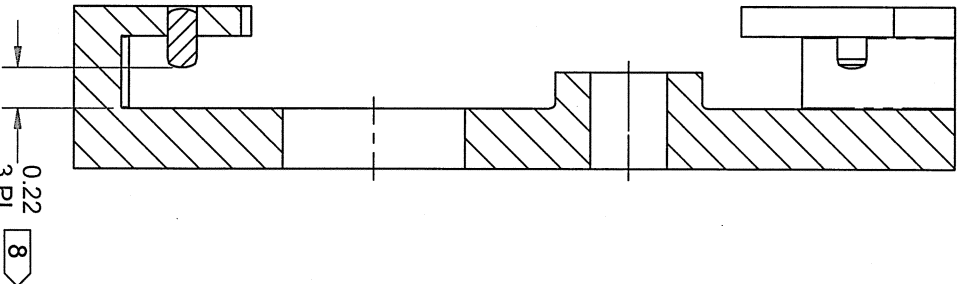
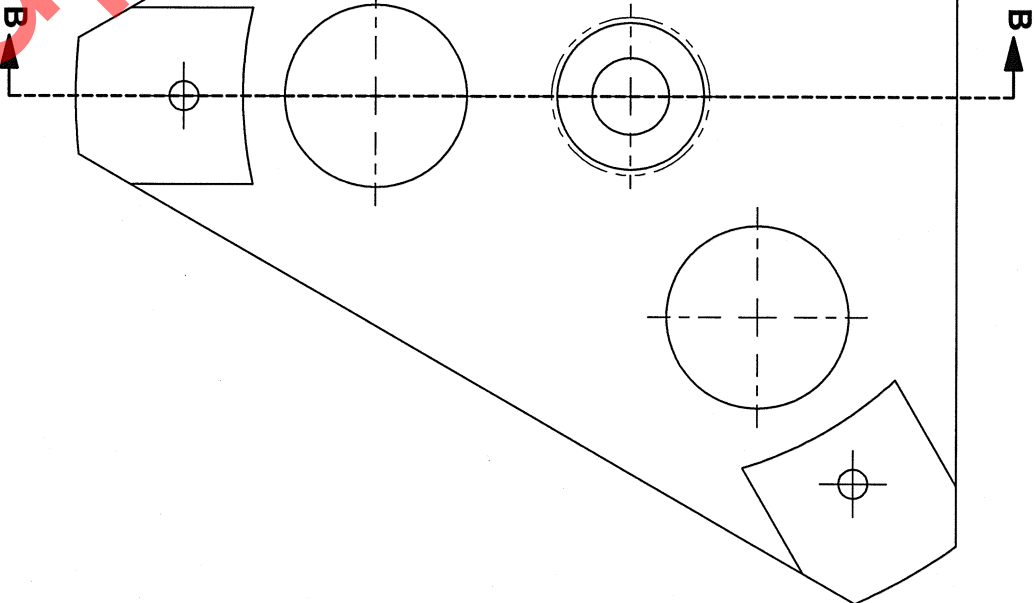
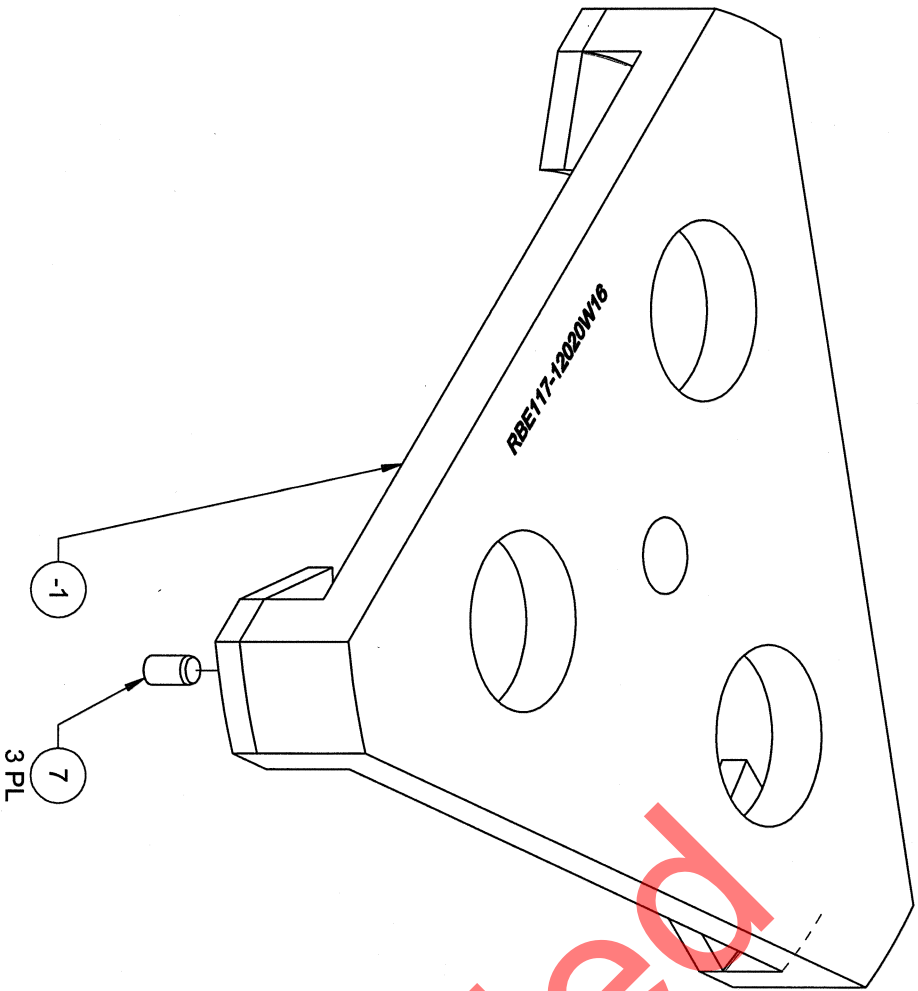
ITEM -2 ASSY ADDED
ITEM -4 ASSY ADDED
ITEM -11 CHANGED FOR ITEM 6
ITEM -13 DOWEL PIN CHANGED FOR ITEM 7 McMaster#91595A150
ITEM -7 CHANGED FOR ITEM 10
ITEM -9 CHANGED FOR ITEM 9
ITEM -15 McMaster#90685A045 CHANGED FOR ITEM 8
McMaster#92497A400
ITEM -1 DIMENSION 4.126 CHANGED FOR 4.157 +/-0.001, DIMENSION 3X 60° REMOVED, DIMENSION 2.371 REMOVED, DIMENSION .325 REMOVED, DIMENSION 0.390 +0.007/-0 ADDED, DIMENSION R0.03 ADDED, DIMENSION .790 CHANGED FOR .79, DIMENSION 1.75 ADDED, DIMENSION .195 CHANGED FOR 0.20, DIMENSION 3.600 +/-0.001 2 PL ADDED, DIMENSION .1574/ .1569 EQUALLY SPACED CHANGED FOR .1574/0.1566 V.0.17 3 PL, DIMENSION .05.455 REMOVED, DIMENSION BC .04.801 REMOVED, DIMENSION (3X 4.825) CHANGED FOR 4.825 3 PL, DIMENSION R2.085 CHANGED FOR .04.170 3 PL, MATERIAL 4140 RC 40-44 CHANGED FOR 4140 RC 40-45, FINISH BLACK OXIDE REMOVED, ENGRAVING S/N AND "MADE IN USA" REMOVED
ITEM -3 MATERIAL 1018 CHANGED FOR 4140 (28-32 RC), FINISH BLACK ANODIZE CHANGED FOR BLACK OXIDE, DIMENSION R0.008" MAX 2 PL ADDED, DIMENSION .01.900 CHANGED FOR .01.900 +/-0.005, DIMENSION .01.330 CHANGED FOR .01.330 +0.005/-0,
DIMENSION .01.615 CHANGED FOR .01.615 +/-0.005
ITEM -5 MATERIAL 4140 Q&T CHANGED FOR 4140 (28-32 RC), DIMENSION 3.128 CHANGED FOR 3.13, DIMENSION .793 REMOVED, DIMENSION (.47) REMOVED, DIMENSION .395 CHANGED FOR 0.40, DIMENSION .01.790 CHANGED FOR .01.79, CENTER DRILL NOTE ADDED, DIMENSION R0.03 ADDED, MIN THREAD RELIEF ADDED, DIMENSION .01.468 CHANGED FOR .01.47, DIMENSION 2.34 ADDED, DIMENSION 1.61 ADDED, DIMENSION .290 CHANGED FOR 0.29, DIMENSION 0.204 ADDED, DIMENSION .022/.020 CHANGED FOR 0.021 +0.002/-0, DIMENSION R0.008 MAX ADDED, DIMENSION .065 REMOVED

19-900

VM

REV.	DESCRIPTION	ECN #	BY
DESIGN	VM	DART AEROSPACE LTD	
DRAWN	VM	HAWKESBURY, ONTARIO, CANADA	
CHECKED	KPT	TOOL PART #	REV. A
MFG. APPR.	JFC	RBE117-12020W16	SHEET 1 OF 6
APPROVED	WJP	TITLE	SCALE
DATE	2019-09-11	BASE EXTRACTOR FREE WHEEL	NTS
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ITEM #	QTY	PART #	PART TITLE
-1	1	RBE117-12020W16-1	FRAME
7	3	McMaster#91595A150 OR EQUIV	STEEL DOWEL PIN 4mm DIA. x 8mm LG.



RBE117-12020W16-2 FRAME ASSY

NOTES:

- 1) MATERIAL: N/A
- 2) HEAT TREAT: N/A
- 3) FINISH: BLACK OXIDE PER MIL-C-13924 CLASS 1 THEN APPLY A THIN LAYER OF OIL / CPC PER MIL-PRF-16173 GRADE 3 CLASS 1 OR MIL-C-81309 TYPE III OR MIL-C-23411A OR MIL-PRF-81309 AND WIPE OFF EXCESS
- 4) TOLERANCES: X.X = +/-0.1" / +/-1°
X.XX = +/-0.01" / +/-0.5°
X.XXX = +/-0.005" / +/-0.1°
X.XXXX = +/-0.0005" / +/-0.05°

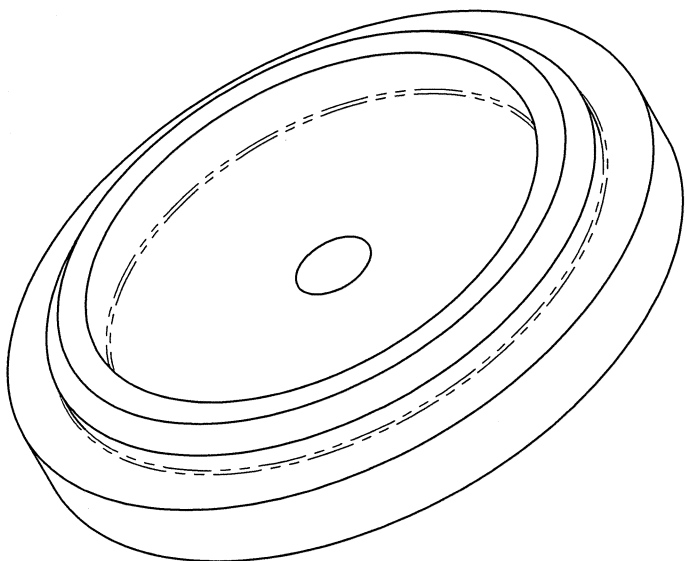
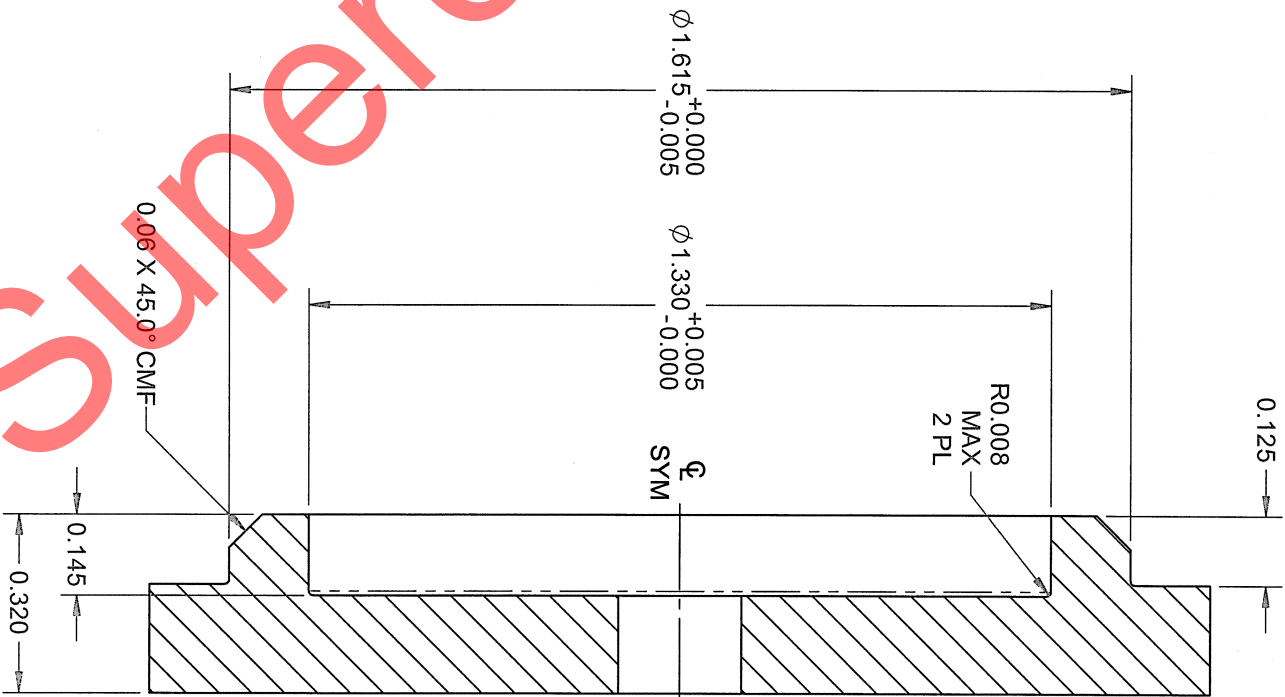
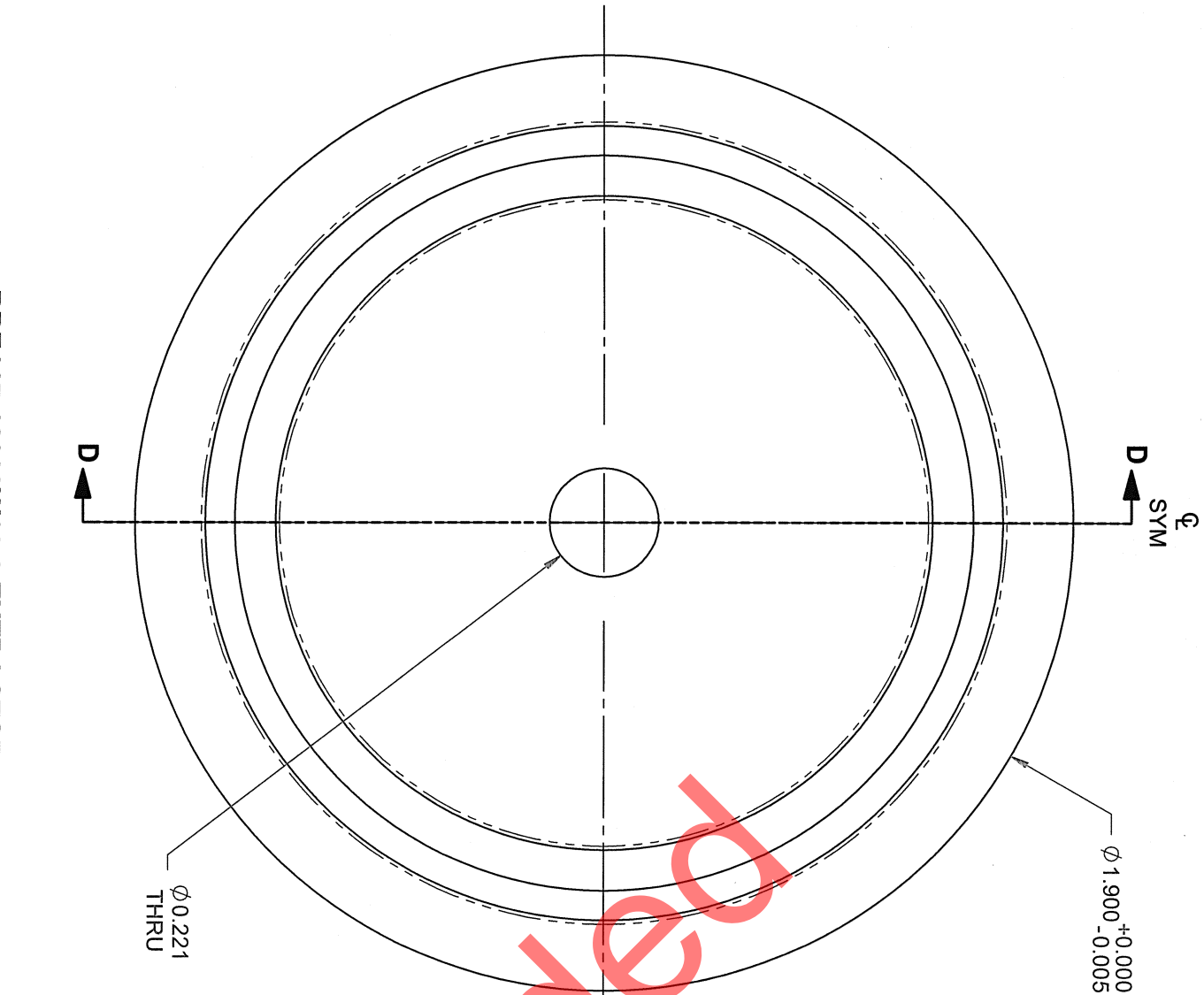
PARALLELISM, ECCENTRICITY AND SYMMETRY ABOUT ALL CENTER LINES = +/-0.005"

- 5) UNITS: INCHES UNLESS OTHERWISE NOTED
- 6) IDENTIFICATION: N/A
- 7) ASSEMBLE AS SHOWN
- 8) APPLY RETAINING COMPOUND LOCITE 620 OR EQUIVALENT ON MATING SURFACES THEN PRESS FIT ITEM 7 WITH ITEM -1, AND REMOVE EXCESS

WELDED REDDNN

URF 19-913 19.09.16 KT

DESIGN	VM	DART AEROSPACE LTD
DRAWN	VM	HAWKESBURY, ONTARIO, CANADA
CHECKED	KPT	TOOL PART #
MFG. APPR.	JFC	RBE117-12020W16
APPROVED	WJ	TITLE
DATE	2019-09-11	BASE EXTRACTOR FREE WHEEL
		SCALE
		NTS
		REV. A
		SHEET 2 OF 6
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RBE117-12020W16-3 EXTRACTOR

SECTION D-D

MEIAER REDNN

URF 19-913 19.09.16 KT

NOTES:

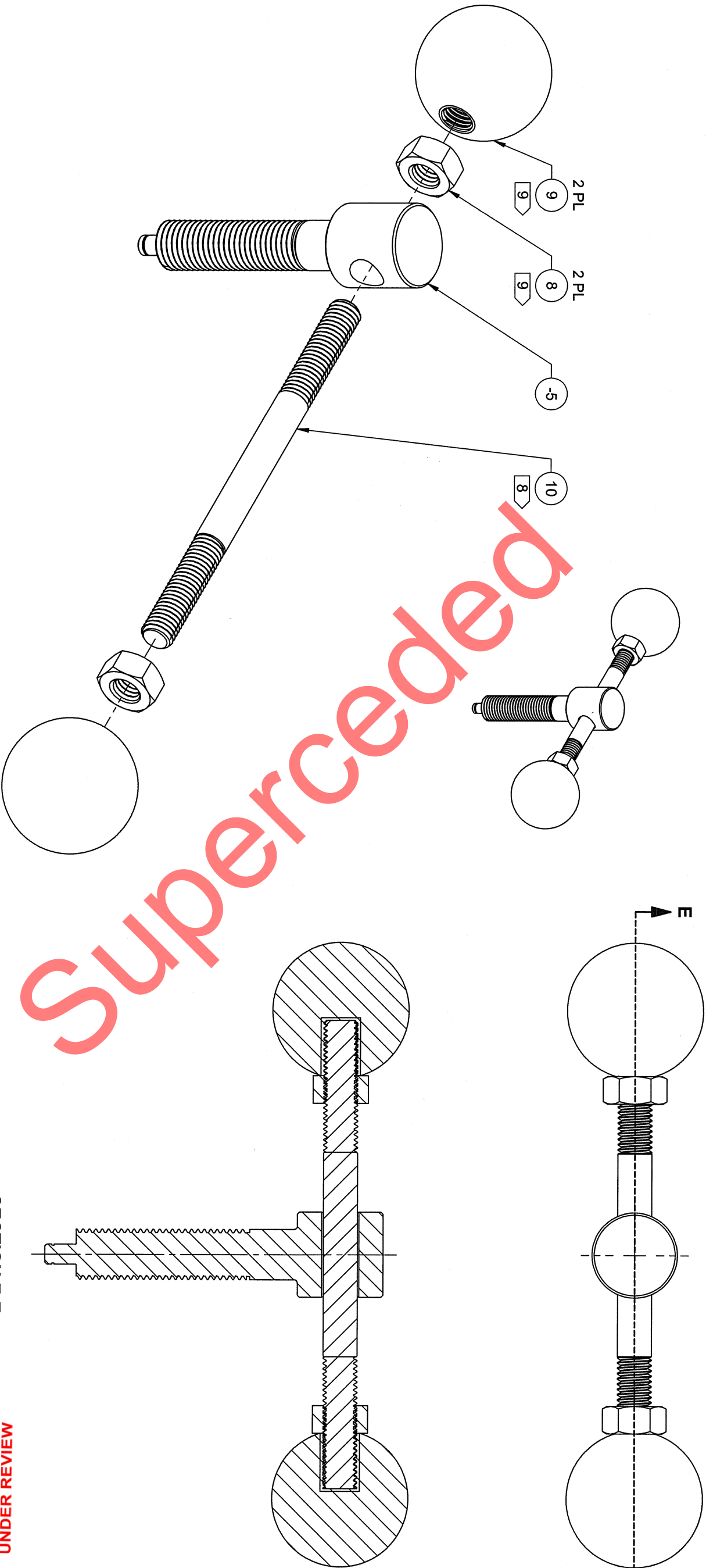
- 1) MATERIAL: 4140 (28-32 RC)
- 2) HEAT TREAT: N/A
- 3) FINISH: BLACK OXIDE PER MIL-C-13924 CLASS 1 THEN APPLY A THIN LAYER OF OIL / CPC PER MIL-PRF-16173 GRADE 3 CLASS 1 OR MIL-C-81309 TYPE III OR MIL-C-23411A OR MIL-PRF-81309 AND WIPE OFF EXCESS
- 4) TOLERANCES: X.X = $\pm 0.1"$ / $\pm 1^\circ$
X.XX = $\pm 0.01"$ / $\pm 0.5^\circ$
X.XXX = $\pm 0.005"$ / $\pm 0.1^\circ$
X.XXXX = $\pm 0.0005"$ / $\pm 0.05^\circ$

PARALLELISM, ECCENTRICITY AND SYMMETRY ABOUT ALL CENTER LINES = $\pm 0.005"$

- 5) UNITS: INCHES UNLESS OTHERWISE NOTED
- 6) REMOVE ALL SHARP EDGES AND BURRS
- 7) IDENTIFICATION: N/A

DESIGN	VM	DART AEROSPACE LTD
DRAWN	VM	HAWKESBURY, ONTARIO, CANADA
CHECKED	KPT	TOOL PART #
MFG. APPR.	JFG	RBE117-12020W16
APPROVED		TITLE
DATE	2019-09-11	BASE EXTRACTOR FREE WHEEL
		SCALE
		NTS
		REV. A
		SHEET 4 OF 6
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ITEM #	QTY	PART #	PART TITLE
-5	1	RBE117-12020W16-5	SCREW
8	2	McMaster#92497A400 OR EQUIV.	ZINC YELLOW PLATED GRADE 10 STEEL HEX NUT M8 X 1.25mm X 6.5mm HT.
9	2	McMaster#6630T220 OR EQUIV	BLACK POLYPROPYLENE BALL KNOB WITH M8 X 1.25 THREADED HOLE X 32mm HEAD DIA.
10	1	McMaster#93275A034 OR EQUIV	BLACK OXIDE STEEL STUD M8 X 1.25 X 110mm LG.



RBE117-12020W16-4 HANDLE ASSY

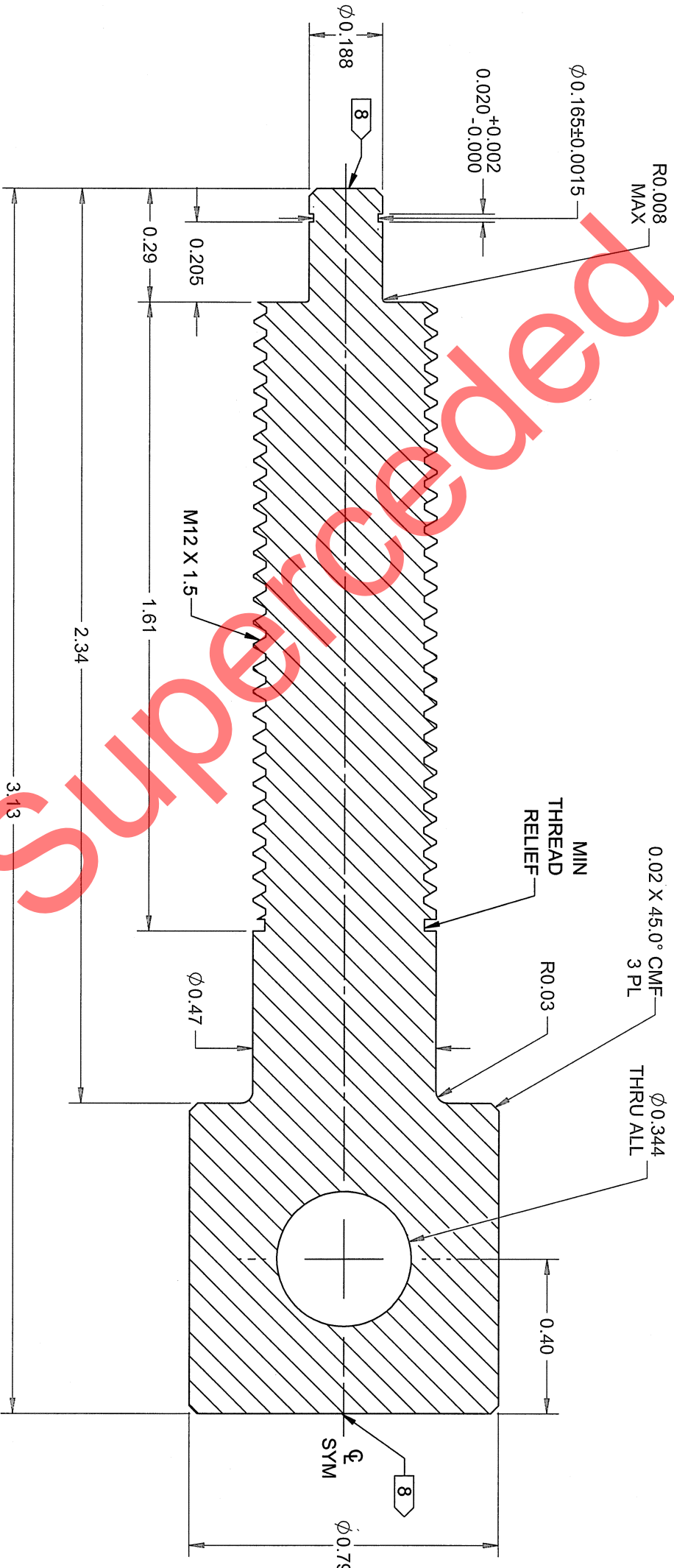
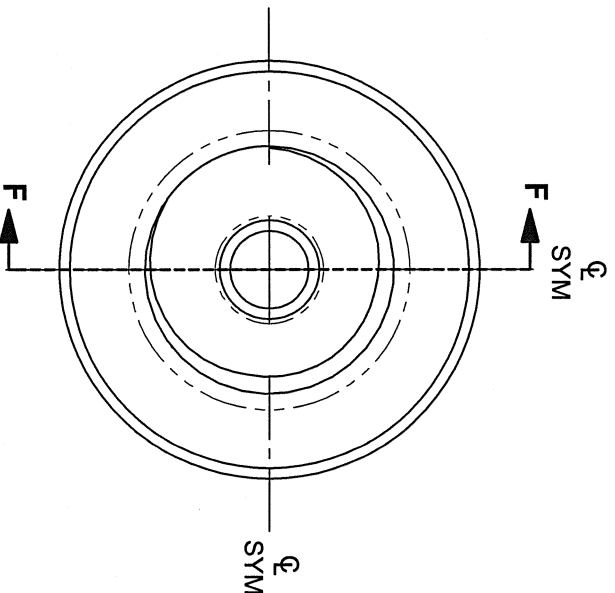
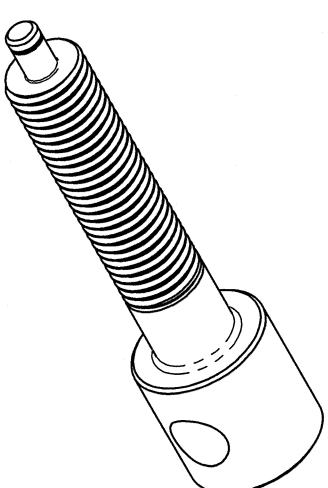
SECTION E-E

MEIAER REDNN
URF 19-913 19.09.16 KT

NOTES:

- 1) MATERIAL: N/A
- 2) HEAT TREAT: N/A
- 3) FINISH: N/A
- 4) TOLERANCES: X.X = +/- 0.1" / +/- 1°
X.XX = +/- 0.01" / +/- 0.5°
X.XXX = +/- 0.005" / +/- 0.1°
X.XXXX = +/- 0.0005" / +/- 0.05°
PARALLELISM, ECCENTRICITY AND SYMMETRY ABOUT ALL CENTER LINES = +/- 0.005"
- 5) UNITS: INCHES UNLESS OTHERWISE NOTED
- 6) IDENTIFICATION: N/A
- 7) ASSEMBLE AS SHOWN
- 8) APPLY RED THREADLOCKER LOCTITE 263/262 ON THREADS OF ITEM 10 THEN ASSEMBLE WITH ITEM 8 AND ITEM 9, AND REMOVE EXCESS
- 9) INSTALL ITEM 8 AND ITEM 9 HAND TIGHT

DESIGN	VM	DART AEROSPACE LTD
DRAWN	VM	HAWKESBURY, ONTARIO, CANADA
CHECKED	KPT	TOOL PART #
MFG. APPR.	JFC	RBE117-12020W16
APPROVED		TITLE
DATE	2019-09-11	BASE EXTRACTOR FREE WHEEL
		SCALE
		NTS
		REV. A
		SHEET 5 OF 6
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RBE117-12020W16-5 SCREW

SECTION F-F

URF 19-913 19.09.16 KT

MEIA3R 3RDNM

- NOTES:
- 1) MATERIAL: 4140 (28-32 RC)
 - 2) HEAT TREAT: N/A
 - 3) FINISH: BLACK OXIDE PER MIL-C-13924 CLASS 1 THEN APPLY A THIN LAYER OF OIL / CPC PER MIL-PRF-16173 GRADE 3 CLASS 1 OR MIL-C-81309 TYPE III OR MIL-C-23411A OR MIL-PRF-81309 AND WIPE OFF EXCESS
 - 4) TOLERANCES: X.X = $\pm 0.1"$ / $\pm 1^\circ$
X.XX = $\pm 0.01"$ / $\pm 0.5^\circ$
X.XXX = $\pm 0.005"$ / $\pm 0.1^\circ$
X.XXXX = $\pm 0.0005"$ / $\pm 0.05^\circ$

- 5) UNITS: INCHES UNLESS OTHERWISE NOTED
- 6) REMOVE ALL SHARP EDGES AND BURRS
- 7) IDENTIFICATION: N/A
- 8) CENTER DRILL IS ACCEPTABLE

DESIGN	VM	DART AEROSPACE LTD
DRAWN	VM	HAWKESBURY, ONTARIO, CANADA
CHECKED	KPT	TOOL PART #
MFG. APPR.	JFC	RBE117-12020W16
APPROVED		TITLE
DATE	2019-09-11	BASE EXTRACTOR FREE WHEEL
		SCALE NTS
		REV. A
		SHEET 6 OF 6
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